Setting priorities for the LRA environmental task force

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Setting Priorities

- Assessment of the environmental effects of Katrina
  - Are there remaining issues? What does the data show? Lessons learned?
- Moving past assessment to rebuilding a better, more resilient, environmental infrastructure
  - Where can the task force make an impact? What should be our highest priority issues?

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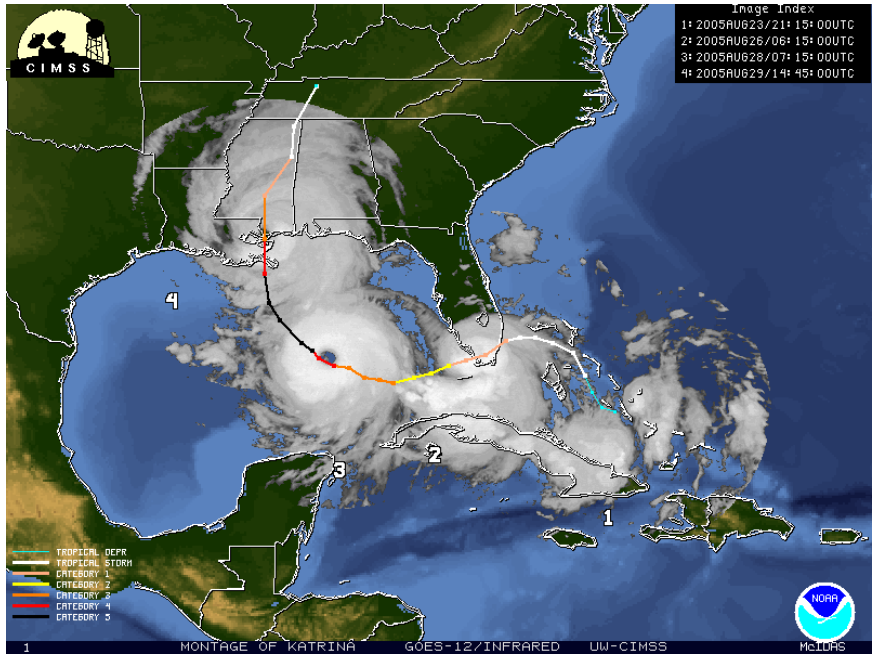
Assessment issues

- Floodwater
- Lake Pontchartrain & Gulf of Mexico
- Resettlement
- Oil Spills
- Debris disposal/ solid waste



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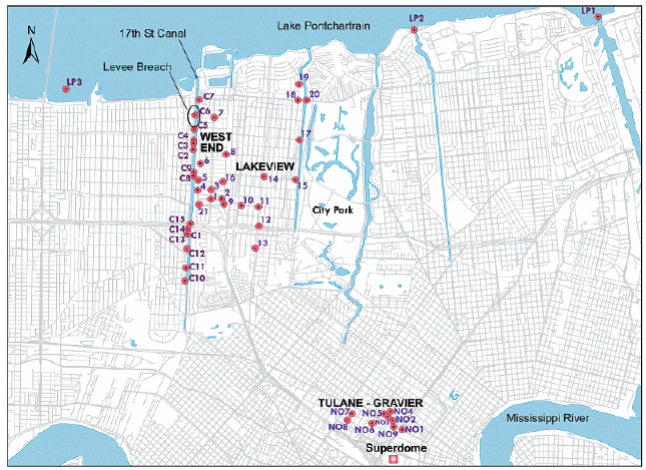
Floodwater Contamination

- Issue: Floodwater contaminated with chemicals and bacteria
- 8/29/05 to 10/19/05
- Data Sources:
  - EPA (http://www.epa.gov/katrina/testresults/index.html)
  - LSU (Chemical and Microbiological Parameters in New Orleans Floodwater Following Hurricane Katrina *Environ. Sci. Technol.,* **39** (22), 8591 -8599, 2005)
  - Louisiana Environmental Action Network (LEAN) (http://www.leanweb.org/Katrina/)
  - Emerging data: 4 other University groups (microbial pathogens/community structure): LSU/Cal-Davis, U. of Colorado, LSU/Michigan State, LSU/McNeese State



Lake Pontchartrain/Gulf of Mexico

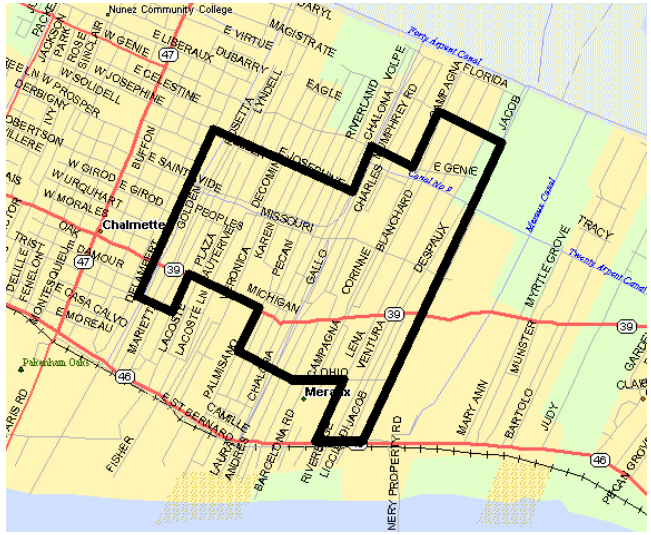
- Issue: Discharge of floodwater contaminated with chemicals and bacteria affects Lake and Gulf ecosystem
- Ongoing
- Data Sources:
  - EPA/DEQ (http://www.epa.gov/katrina/testresults/index.html)
  - LSU (Chemical and Microbiological Parameters in New Orleans Floodwater Following Hurricane Katrina *Environ. Sci. Technol.,* **39** (22), 8591 - 8599, 2005)
  - USGS Microbial Parameters (fecal indicators) (http://pubs.usgs.gov/ds/2005/143/)
  - NOAA (assessment of effects on marine life) (http://www.st.nmfs.noaa.gov/hurricane_katrina/water_sediment_survey.html)
  - Emerging data: joint EPA/USGS/NOAA study, LSU/Coast & Environment, University of Hawaii groups funded by NSF (Chemical Oceanography)

Resettlement

- Issues: Indoor air contamination in flooded homes for residents returning to clean-out. Contaminated sediments, dust and air from clean up activities
- Ongoing
- Data Sources:
  - EPA/DEQ (http://www.epa.gov/katrina/testresults/index.html) (sediment and outdoor air data)
  - LEAN (http://www.leanweb.org/Katrina/) (sediment)
  - NRDC http://www.nrdc.org/health/effects/katrinadata/contents.asp (Particulates, mold)
  - Emerging data: LSU HSRC/CAMD sediments/aerosols, Texas Tech (soils/sediments), U. of Notre Dame (mold)

Oil Spills

- Issues: Oil spills in Meraux, La and elsewhere (595 total spills from Katrina and Rita)
- Ongoing
- Data Sources:
  - EPA/LDEQ (sediment, air): (http://www.epa.gov/katrina/testresults/index.html)
  - ATSDR evaluation of Meraux data (http://www.bt.cdc.gov/disasters/hurricanes/katrina/murphyoil/index.asp
  - LEAN (http://www.leanweb.org/Katrina/) (sediment)
  - US Coast Guard Spill Database (http://www.nrc.uscg.mil/foia.html)
  - Emerging data: Additional EPA data and report from Murphy Oil's consultant (CTEH, LLC)



Debris disposal/solid waste

- Issues: Safe disposal of housing contents and vehicles. Safety of Old Gentilly landfill to accept construction and demolition wastes
- Ongoing
- Data Sources:
  - Public Affairs Officer at Old Gentilly Landfill will share debris estimates and counts of white goods, wood debris, automobile estimates

LDEQ Emergency Response, Assessment, and Recovery for Environmental Consequences of Hurricane Katrina

- Waste Water Infrastructure Restoration
- Drinking Water
- Solid Waste/Debris Removal and Disposal
- Hazardous Waste Assessment and Disposition
- Underground Storage Tank Assessment and Disposition
- Securing, Storage, and Disposal of Radiation Sources

    - Total Estimated Costs: $49 Billion

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Goals

- Goal 1: Re-establish regionalized wastewater treatment systems in storm affected areas by 12/31/06
- Goal 2: Complete removal and disposal of storm debris/waste at commercial locations by 12/31/06
- Goal 3: Clean up hazardous waste at non-operational sites in storm affected areas by July 1, 2006
- Goal 4: Conserve all natural resources during recover phase

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Goals and Principles for Action
Louisiana Recovery and Rebuilding Conference

- **Create infrastructure** that supports recovery be restoring confidence, enhancing quality of life, and withstanding future disasters…restored wetlands, energy infrastructure

- **Promote economic growth** that benefits everyone…education, job training, affordable housing

- **Provide public services** that enhance quality of life…regional transit, parks, green spaces

- **Pursue policies** that promote a healthy environment and healthy people…sustainable development, healthy life styles (walkable communities)

- **Plan and design communities** that advance livability…foster diversity and social equity, smart growth

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ULI: Moving Beyond Recovery to Restoration and Rebirth

- Sustainable development principles should guide infrastructure planning, design and construction
- Phase infrastructure improvements by assigning priorities to geographic areas most environmentally sustainable for development and to critical economic sectors
- Rebuild a reliable and safe regional levee system and restore coastal wetlands
- Develop and improve a local and regional transportation system that connects neighborhoods and facilitates evacuation
- Establish a centralized regional infrastructure planning process
- Coordinate local land use and infrastructure planning and decision-making

www.uli.org

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Infrastructure resilience

- ‘‘the ability to recover quickly from illness, change, or misfortune. Buoyancy. The property of a material that enables it to assume its original shape or position after being bent, stretched, or compressed. Elasticity.’’(*New International Webster’s Comprehensive Dictionary* 1996).
- Resilience implies both the ability to adjust to ‘‘normal’’ or anticipated levels of stress and to adapt to sudden shocks and extraordinary demands (Bruneau et al., 2003)

Infrastructure resilience

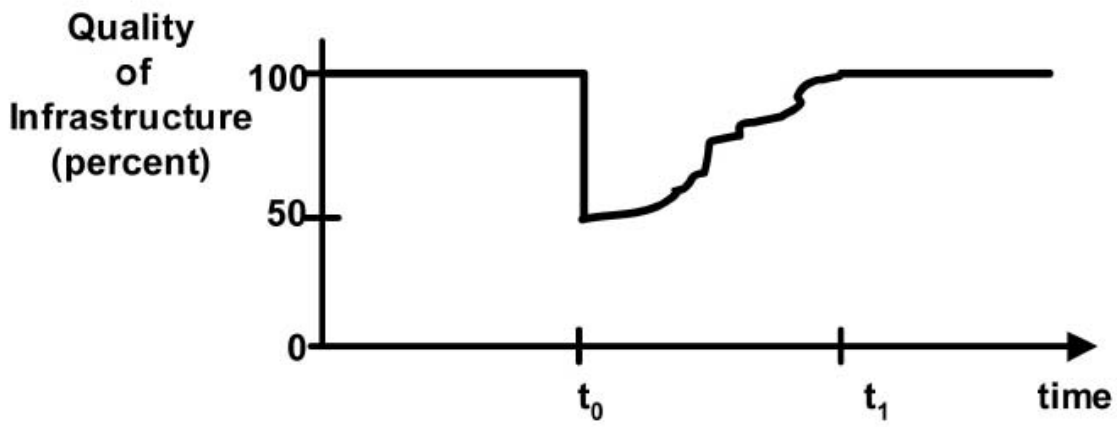

Figure 1. Measure of seismic resilience—conceptual definition.

(Bruneau et al., 2003)

Environmental infrastructure resilience

- Wastewater treatment
  - Hundreds of WW plants to be restarted
- Water treatment
  - Example: Carrollton drinking water plant
- Solid waste disposal
  - Availability of debris disposal sites

How did we do?

- Coastal communities
  - Low resilience
- Special case of Baton Rouge
  - Doubling of population
  - WW resilience
  - Water resilience
  - Solid Waste resilience

Possible Priorities

- Restoration of natural resources
- Remediation of preexisting environmental issues in New Orleans and other areas
- Rebuilding a better, more resilient, community
- Barriers to economic development

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Priorities:
Coastal Ecosystem Restoration ($14 B)

- Provides nursery grounds for fisheries
  - Nation's second largest commercial fishery
  - > $1B/yr in recreational fishing and hunting revenues
- Provides hurricane and flood protection
  - Tidal surge attenuatation
  - Water diversion (spillways)
- Provides oil and natural gas infrastructure protection
  - 26% of Nation's supplies produced in or travels through coastal LA
  - 16% of Nation's refining capacity in coastal LA
- Provides for health of GOM
  - Wetlands remove nutrients from rivers which cause hypoxia

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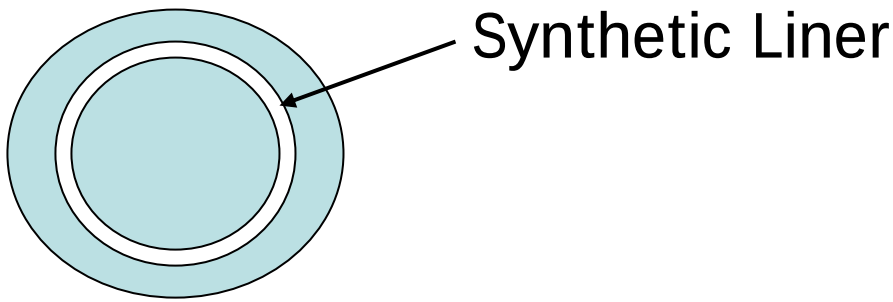
Priorities:
Sewage Collection System Rebuild (N.O.)

- Description: New Orleans sewage lines are old and leak extensively
- Pre-existing condition that must be accelerated with city rebuilding
- Opportunity for technology and innovation



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Priorities:
Preexisting Urban Soil Contamination

- Description: Soil lead levels often above action levels
- What are appropriate standards for these communities?
- Do “capping” methods provide cost-effective remedial opportunities during this rebuilding phase (economies of scale)?
- Can be addressed in the rebuilding phase

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Priorities:
Energy Conservation

- Sustainable development includes a component of energy conservation
  - Housing designs and materials
  - Regional transit
  - Renewable energy
- Reduced combustion of fossil fuels
  - Improves air quality (Nox, ozone, particulates)
  - Lowers CO_2 levels and global warming potential
- Recreates new industries/jobs

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Priorities:
Coastal Wastewater Treatment Plants

- Description: Large % of treatment plants in coastal areas damaged by hurricane
- Opportunity for technology and innovation
  - Design wetland treatment systems that help sustain and build wetlands and create sustainable treatment systems
- Upset conditions from mechanical systems are minimized
- Conserves energy
- Create incentives for developers and municipalities to install
- Consider the FlaWARN program in Florida
- Consider regional systems vs. individual systems

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Priorities:
Streamlined Permitting Process

- Description: Encourage clean industries and economic development by creating a streamlined and predictable permitting process
- Environmental stewardship is directly proportional to economic prosperity

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Priorities:
Oil and Gas Legacy Lawsuits

- Description: Lawsuits by landowners and plaintiff lawyers for legacy oil and gas contamination and erosion
- Creates a negative investment environment
- Will likely be proliferated by hurricane damage

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